

**Abstract**

A telecommunications switching node comprising a plurality of input and output (I/O) ports configured to receive and transmit telecommunications signals, a switching core comprising a plurality of switching networks and a backplane connecting each of the plurality of I/O ports to each  
5 of the switching networks in the switching core. A non-blocking path is provided for each communications signal from any of the input ports to any of the output ports via one of the switching networks in the switching core. Further, the switching system effects a non-blocking path via all of the switching networks in the switching core. Advantageously, the switching core comprises a pair of switching networks. Further, this telecommunications switching node is expandable by adding a  
10 second switching core comprising a pair of switching networks to the node. One or more of the plurality of I/O ports may include a switching network to effect connection through the backplane to both pairs of switching networks.